# Domain 1 - Preoperative anatomy

Is "proximal aortic neck length <15 mm" an important predictor of adverse events after EVAR that should be considered in risk stratification and surveillance strategies?

- 1. Strongly agree
- 2. Agree
- 3. Disagree
- 4. Strongly disagree
- 5. Can't say

#### Comments/suggestions:

If you strongly agree or agree with the statement, how would you stratify the importance of the predictor within the context of risk stratification and surveillance strategies?

- 1. High importance
- 2. Medium importance
- 3. Low importance

Is "proximal aortic neck diameter >30 mm" an important predictor of adverse events after EVAR that should be considered in risk stratification and surveillance strategies?

- Strongly agree
- 2. Agree
- 3. Disagree
- 4. Strongly disagree
- Can't say

# Comments/suggestions:

If you strongly agree or agree with the statement, how would you stratify the importance of the predictor within the context of risk stratification and surveillance strategies?

- 1. High importance
- 2. Medium importance
- 3. Low importance

Is "infra-renal neck angulation >60 degrees" an important predictor of adverse events after EVAR that should be considered in risk stratification and surveillance strategies?

- Strongly agree
- 2. Agree
- 3. Disagree
- Strongly disagree
- 5. Can't say

#### Comments/suggestions:

- 1. High importance
- 2. Medium importance
- 3. Low importance

Is "supra-renal neck angulation >45 degrees" an important predictor of adverse events after EVAR that should be considered in risk stratification and surveillance strategies?

- Strongly agree
- 2. Agree
- 3. Disagree
- 4. Strongly disagree
- 5. Can't say

# Comments/suggestions:

If you strongly agree or agree with the statement, how would you stratify the importance of the predictor within the context of risk stratification and surveillance strategies?

- High importance
- 2. Medium importance
- 3. Low importance

Is ">50% circumferential proximal aortic neck calcification" an important predictor of adverse events after EVAR that should be considered in risk stratification and surveillance strategies?

- 1. Strongly agree
- 2. Agree
- 3. Disagree
- 4. Strongly disagree
- 5. Can't say

# Comments/suggestions:

If you strongly agree or agree with the statement, how would you stratify the importance of the predictor within the context of risk stratification and surveillance strategies?

- High importance
- 2. Medium importance
- 3. Low importance

Is ">50% circumferential proximal aortic neck thrombus" an important predictor of adverse events after EVAR that should be considered in risk stratification and surveillance strategies?

- 1. Strongly agree
- 2. Agree
- 3. Disagree
- 4. Strongly disagree
- 5. Can't say

# Comments/suggestions:

- 1. High importance
- 2. Medium importance
- 3. Low importance

Is "conical proximal aortic neck" an important predictor of adverse events after EVAR that should be considered in risk stratification and surveillance strategies?

- Strongly agree
- 2. Agree
- 3. Disagree
- 4. Strongly disagree
- 5. Can't say

# Comments/suggestions:

If you strongly agree or agree with the statement, how would you stratify the importance of the predictor within the context of risk stratification and surveillance strategies?

- High importance
- 2. Medium importance
- 3. Low importance

Is "maximal AAA diameter >70 mm" an important predictor of adverse events after EVAR that should be considered in risk stratification and surveillance strategies?

- Strongly agree
- 2. Agree
- 3. Disagree
- 4. Strongly disagree
- 5. Can't say

# Comments/suggestions:

If you strongly agree or agree with the statement, how would you stratify the importance of the predictor within the context of risk stratification and surveillance strategies?

- High importance
- 2. Medium importance
- 3. Low importance

Is ">2 patent lumbar arteries plus non-patent IMA or >1 patent lumbar artery plus patent IMA" an important predictor of adverse events after EVAR that should be considered in risk stratification and surveillance strategies?

- 1. Strongly agree
- 2. Agree
- 3. Disagree
- 4. Strongly disagree
- 5. Can't say

# Comments/suggestions:

- 1. High importance
- 2. Medium importance
- Low importance

Is "distal aortic neck diameter <18 mm" an important predictor of adverse events after EVAR that should be considered in risk stratification and surveillance strategies?

- Strongly agree
- 2. Agree
- 3. Disagree
- 4. Strongly disagree
- 5. Can't say

# Comments/suggestions:

If you strongly agree or agree with the statement, how would you stratify the importance of the predictor within the context of risk stratification and surveillance strategies?

- High importance
- 2. Medium importance
- 3. Low importance

Is "common iliac artery aneurysm (if common iliac artery used as a landing zone)" an important predictor of adverse events after EVAR that should be considered in risk stratification and surveillance strategies?

- Strongly agree
- 2. Agree
- 3. Disagree
- 4. Strongly disagree
- Can't say

# Comments/suggestions:

If you strongly agree or agree with the statement, how would you stratify the importance of the predictor within the context of risk stratification and surveillance strategies?

- 1. High importance
- 2. Medium importance
- 3. Low importance

Is "distal iliac landing zone diameter >20 mm" an important predictor of adverse events after EVAR that should be considered in risk stratification and surveillance strategies?

- Strongly agree
- 2. Agree
- 3. Disagree
- 4. Strongly disagree
- 5. Can't say

#### Comments/suggestions:

- 1. High importance
- 2. Medium importance
- Low importance

Is "distal iliac landing zone length <10 mm" an important predictor of adverse events after EVAR that should be considered in risk stratification and surveillance strategies?

- Strongly agree
- 2. Agree
- 3. Disagree
- 4. Strongly disagree
- Can't say

# Comments/suggestions:

If you strongly agree or agree with the statement, how would you stratify the importance of the predictor within the context of risk stratification and surveillance strategies?

- High importance
- 2. Medium importance
- 3. Low importance

Is "iliac tortuosity index >1.25" an important predictor of adverse events after EVAR that should be considered in risk stratification and surveillance strategies?

- 1. Strongly agree
- 2. Agree
- 3. Disagree
- 4. Strongly disagree
- 5. Can't say

# Comments/suggestions:

If you strongly agree or agree with the statement, how would you stratify the importance of the predictor within the context of risk stratification and surveillance strategies?

- High importance
- 2. Medium importance
- 3. Low importance

Would you suggest any other preoperative anatomy-related predictors of adverse outcomes after EVAR?

# Domain 2 - Aortic device

Is "anatomy non-complaint with IFU" an important predictor of adverse events after EVAR that should be considered in risk stratification and surveillance strategies?

- Strongly agree
- 2. Agree
- 3. Disagree
- 4. Strongly disagree
- 5. Can't say

#### Comments/suggestions:

If you strongly agree or agree with the statement, how would you stratify the importance of the predictor within the context of risk stratification and surveillance strategies?

- 1. High importance
- 2. Medium importance
- 3. Low importance

Is "supra-renal fixation device" an important predictor of adverse events after EVAR that should be considered in risk stratification and surveillance strategies?

- Strongly agree
- 2. Agree
- 3. Disagree
- 4. Strongly disagree
- Can't say

# Comments/suggestions:

If you strongly agree or agree with the statement, how would you stratify the importance of the predictor within the context of risk stratification and surveillance strategies?

- 1. High importance
- 2. Medium importance
- 3. Low importance

Is "infra-renal fixation device" an important predictor of adverse events after EVAR that should be considered in risk stratification and surveillance strategies?

- Strongly agree
- 2. Agree
- 3. Disagree
- Strongly disagree
- Can't say

# Comments/suggestions:

If you strongly agree or agree with the statement, how would you stratify the importance of the predictor within the context of risk stratification and surveillance strategies?

- 1. High importance
- 2. Medium importance
- Low importance

Is "EVAR procedure not performed according to IFU" an important predictor of adverse events after EVAR that should be considered in risk stratification and surveillance strategies?

- 1. Strongly agree
- 2. Agree
- 3. Disagree
- 4. Strongly disagree
- 5. Can't say

# Comments/suggestions:

If you strongly agree or agree with the statement, how would you stratify the importance of the predictor within the context of risk stratification and surveillance strategies?

- 1. High importance
- Medium importance
- 3. Low importance

Would you suggest any other aortic device-related predictors of adverse outcomes after EVAR?

# Domain 3 - Procedure performance

Is "suboptimal position of endografts in relation to distal, overlapping, and proximal landing zones" an important predictor of adverse events after EVAR that should be considered in risk stratification and surveillance strategies?

- Strongly agree
- 2. Agree
- Disagree
- 4. Strongly disagree
- Can't say

# Comments/suggestions:

- 1. High importance
- 2. Medium importance
- Low importance

Is "non-type II endoleak/kink/stenosis on completion angiogram" an important predictor of adverse events after EVAR that should be considered in risk stratification and surveillance strategies?

- 1. Strongly agree
- 2. Agree
- 3. Disagree
- 4. Strongly disagree
- 5. Can't say

#### Comments/suggestions:

If you strongly agree or agree with the statement, how would you stratify the importance of the predictor within the context of risk stratification and surveillance strategies?

- 1. High importance
- 2. Medium importance
- 3. Low importance

Is "unplanned adjunctive procedures in the proximal neck" an important predictor of adverse events after EVAR that should be considered in risk stratification and surveillance strategies?

- Strongly agree
- Agree
- 3. Disagree
- 4. Strongly disagree
- Can't say

# Comments/suggestions:

If you strongly agree or agree with the statement, how would you stratify the importance of the predictor within the context of risk stratification and surveillance strategies?

- 1. High importance
- 2. Medium importance
- 3. Low importance

Is "unplanned adjunctive procedure other than in the proximal neck" an important predictor of adverse events after EVAR that should be considered in risk stratification and surveillance strategies?

- Strongly agree
- 2. Agree
- Disagree
- 4. Strongly disagree
- 5. Can't say

# Comments/suggestions:

If you strongly agree or agree with the statement, how would you stratify the importance of the predictor within the context of risk stratification and surveillance strategies?

- High importance
- 2. Medium importance
- 3. Low importance

Would you suggest any other procedure performance-related predictors of adverse outcomes after EVAR?

# Domain 4 - Postoperative surveillance imaging

Is "non-satisfactory seal at landing/overlapping zones" an important predictor of adverse events after EVAR that should be considered in risk stratification and surveillance strategies?

Strongly agree

- 2. Agree
- 3. Disagree
- 4. Strongly disagree
- Can't say

# Comments/suggestions:

If you strongly agree or agree with the statement, how would you stratify the importance of the predictor within the context of risk stratification and surveillance strategies?

- 1. High importance
- 2. Medium importance
- 3. Low importance

Is "endoleak (type II)" an important predictor of adverse events after EVAR that should be considered in risk stratification and surveillance strategies?

- 1. Strongly agree
- 2. Agree
- 3. Disagree
- 4. Strongly disagree
- Can't say

# Comments/suggestions:

If you strongly agree or agree with the statement, how would you stratify the importance of the predictor within the context of risk stratification and surveillance strategies?

- 1. High importance
- 2. Medium importance
- 3. Low importance

Is "no sac shrinkage (stable or expanding aneurysm sac)"<sup>c</sup> an important predictor of adverse events after EVAR that should be considered in risk stratification and surveillance strategies?

- Strongly agree
- 2. Agree
- 3. Disagree
- 4. Strongly disagree
- 5. Can't say

# Comments/suggestions:

If you strongly agree or agree with the statement, how would you stratify the importance of the predictor within the context of risk stratification and surveillance strategies?

- 1. High importance
- 2. Medium importance
- 3. Low importance

Is "sac expansion" an important predictor of adverse events after EVAR that should be considered in risk stratification and surveillance strategies?

- Strongly agree
- 2. Agree
- 3. Disagree
- 4. Strongly disagree
- 5. Can't say

# Comments/suggestions:

If you strongly agree or agree with the statement, how would you stratify the importance of the predictor within the context of risk stratification and surveillance strategies?

- 1. High importance
- 2. Medium importance
- 3. Low importance

Would you suggest any other postoperative surveillance imaging-related predictors of adverse outcomes after EVAR?

<sup>a</sup>defined as diameter >25 mm.

<sup>b</sup>calculated by dividing the distance along the central lumen line from the aortic bifurcation to the common femoral artery by the straight-line distance from the aortic bifurcation to the common femoral artery. A ratio of <1.25 is optimal while a ratio of >1.6 is deemed as severe.

<sup>c</sup>sac expansion or sac shrinkage is defined as a 5 cm increase or decrease in the size of the abdominal aortic aneurysm sac between two surveillance imaging tests of the same mode.

**Appendix 1.** Tier 1 survey: Defining prognostic factors of endovascular aneurysm repair that should be considered in risk stratification and surveillance strategies. AAA, abdominal aortic aneurysm; EVAR, endovascular aneurysm repair; IFU, instructions for use; IMA, inferior mesenteric artery.